REMARKS

The Official Action mailed September 6, 2002 has been received and its contents carefully noted. Filed concurrently herewith is a *Request for Two Month Extension of Time*, which extends the shortened statutory period for response to February 6, 2003. Accordingly, Applicant respectfully submits that this response is being timely filed.

Applicants have not received acknowledgement of the Information Disclosure Statements filed on March 8, 2002 and April 29, 2002. Applicants respectfully request the Examiner to provide an initialed copy of the Form PTO-1449 evidencing consideration of these Information Disclosure Statements. A further *Notification of Related Application* is submitted herewith and careful review and consideration of this information is requested.

Claims 1-12 are pending in the present application, of which claims 1, 3, 5, 7, 9, and 11 are independent. Independent claims 1, 3, 5, 7, 9, and 11 have been amended herewith and, for the reasons set forth in detail below, all claims are believed to be in condition for allowance.

The Official Action first objects to the drawings as failing to comply with 37 CFR 1.84(p)(4) because reference numeral 404 has been used to designate both a lead frame and a binder layer. In response, Applicants have amended page 16, line 6 of the specification to change "404" to "403." It is respectfully submitted that this amendment is sufficient to correct this informality and favorable reconsideration is requested.

The Official Action also objects to the drawings as failing to comply with 37 CFR 1.84(p)(5) because reference number 149 is shown in the drawings and not described in the specification. In response, page 14, line 19 of the specification has been amended to refer to reference number 149. No new matter is added and favorable reconsideration is requested.

The Official Action next objects to page 3, lines 19-20 of the specification for typographical matters. In response, the specification has been amended to correct these matters of form and favorable reconsideration is requested.

The Official Action rejects claims 1, 3, 5, 7, 9, and 11 as obvious based on the combination of U.S. Patent 6,175,186 B1 to Matsuura et al. and U.S. Patent 6,103,558 to Yamanaka et al. As stated in MPEP § 2143-2143.01, to establish a *prima facie* case

of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." *In re Kotzab,* 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

Independent claims 1, 3, 5, 7, 9 and 11 have been amended herewith to further clarify the present invention. In these claims, a bed plate and a single crystal semiconductor substrate are recited. In this regard, Matsuura does not disclose or suggest a semiconductor substrate because Matsuura uses glass substrate. Furthermore, Yamanaka does not disclose or suggest a semiconductor substrate because Yamanaka discloses the use of a glass substrate, organic substrate, and ceramic substrate. Therefore, it is respectfully submitted that the prior art, whether taken alone or in combination, fails to disclose at least the claimed semiconductor substrate. Since the prior art fails to disclose or suggest each and every element recited in the claims, a *prima facie* case of obviousness cannot be maintained and favorable reconsideration is requested.

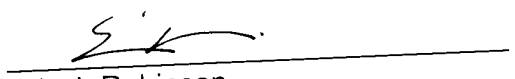
Furthermore, in accordance with the present invention as recited in independent claims 1, 3, 5, 7, 9, and 11, a bed plate is used to prevent the semiconductor substrate from being damaged or destroyed by external shock. This is because the semiconductor substrate is weak. The substrate used in the reference to Matsuura, i.e. a glass substrate, is strong. Also, the substrates used in the reference to Yamanaka,

for example the glass substrate and the organic substrate, are strong. Therefore, there are significant advantages that are achieved by the present invention that are neither disclosed nor suggested by the prior art of record. It is respectfully submitted that one of skill in the art would not have been motivated to combine the teachings of Matsurra and Yamanaka to achieve the present invention since the present invention is particularly advantageous for the reasons noted above. Furthermore, the combination of Matsuura and Yamanaka fails to disclose or suggest the use of the semiconductor substrate as noted above. Therefore, for this further reason, it is respectfully submitted that a *prima facie* case of obviousness cannot be maintained and favorable reconsideration is requested.

The Official Action further rejects claims 2, 4, 6, 8, 10, and 12 as obvious based on the combination of Matsuura, Yamanaka, and U.S. Patent 5,903,098 to Jones. It is respectfully submitted that these claims are allowable for the same reasons as noted above with respect to independent claims 1, 3, 5, 7, 9 and 11. Favorable reconsideration is requested.

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact Applicant's undersigned attorney at the telephone number listed below.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

Please amend the specification as follows:

On Page 3, first full paragraph

However, an organic EL layer which serves as the basic portion of the organic EL display device is very liable to oxidize, and it easily deteriorates in the presence of a slight amount of oxygen. [Besides, it has a low becomes a cause for resistance to heat, and this also is a factor promoting oxidation.] Besides, it has a low resistance to heat, and this also is a factor promoting oxidation. The liability to oxidize is the cause of a short lifetime of the organic EL element, and has formed a serious obstacle in putting this element into practical use.

On page 14, first full paragraph

Fig. 2(A) is a top plan view of the pixel unit of the active matrix substrate, while Fig. 2(B) is a connection diaphragm of the circuit arrangement of the pixel unit. In actuality, the pixel unit (image display unit) is so constructed that a plurality of pixels are arrayed in the shape of a matrix. Incidentally, a sectional view taken along A- A' in Fig. 2(A) corresponds to the sectional view of the pixel unit in Fig. 1. Accordingly, common reference numbers are indicated in Fig. 1 and Fig. 2(A), both of which may be referred to on occasion. Besides, two pixels are illustrated in the top plan view of Fig. 2(A), and they have the same structure. As shown in Fig. 2(B), two FETs per pixel are disposed for the organic EL element 205. Both the FETs are of n-channel type, and they function as the switching FET 203 and the current controlling FET 204. Reference numeral 149 designates a gate wiring.

On page 15, second full paragraph continuing on page 16

The active matrix substrate formed with the organic EL layer is sealed in a package in order to be cut off from external shocks, and ambient conditions such as dust and humidity. The shape and scheme of the package are exemplified in Fig. 4. A bed plate 401 is formed of an insulating material such as ceramics, and the active matrix substrate 413 formed with the organic EL layer is fixed thereon by a low-melting glass or

metallized layer 402. The active matrix substrate 413 is connected with an external circuit by a lead frame [404] 403, which is connected with the active matrix substrate 413 by wire pieces 412 of gold (Au) through pads 410 for wire bonding.

IN THE CLAIMS:

Please amend claims 1, 3, 5, 7, 9, and 11 as follows:

1. (Amended) An active matrix type organic EL display device comprising:

an insulating gate field effect transistor provided on a single crystal semiconductor substrate;

an [organic] EL layer comprising an organic material provided over said insulated gate field effect transistor;

a bed plate and a cover plate formed of an insulating material;

a packing material for bonding the bed and cover plates,

wherein the single crystal semiconductor substrate is held in a vacant space which is defined by the bed plate and the cover plate and the packing material, [and]

wherein the vacant space is filled with an inert gas and a drying agent, and

wherein said single crystal semiconductor substrate is fixed over said bed plate.

3. (Amended) An active matrix type organic EL display device comprising:

an insulated gate field effect transistor provided in a pixel section on a single crystal semiconductor substrate;

an [organic] EL layer comprising an organic material provided over said insulated gate field effect transistor;

a bed plate and a cover plate formed of an insulating material;

a packing material for bonding the bed and cover plates,

wherein the single crystal semiconductor substrate is held in a vacant space which is defined by the bed plate and the cover plate and the packing material,

wherein the cover plate comprises a transparent material in a region of the cover plate overlapping with the pixel section, [and]

wherein the vacant space is filled with an inert gas and a drying agent, and

wherein said single crystal semiconductor substrate is fixed over said bed plate.

5. (Amended) An active matrix type organic EL display device comprising:

an insulated gate field effect transistor provided in a pixel section on a single crystal semiconductor substrate;

an [organic] EL layer comprising an organic material provided over said insulated gate field effect transistor;

a bed plate and a cover plate formed of a ceramics material;

a packing material for bonding the bed and cover plates,

wherein the single crystal semiconductor substrate is held in a vacant space which is defined by the bed plate and the cover plate and the packing material,

wherein the cover plate comprises a transparent material in a region of the cover plate overlapping with the pixel section, [and]

wherein the vacant space is filled with an inert gas selected from the group consisting of helium, argon, krypton, xenon and nitrogen, and is filled with a drying agent selected from the group consisting of barium oxide and silica gel, and

wherein said single crystal semiconductor substrate is fixed over said bed plate.

7. (Amended) An active matrix type organic EL display device comprising:

an insulated gate field effect transistor provided on a single crystal semiconductor substrate;

an [organic] EL layer comprising an organic material provided over said insulated gate field effect transistor;

a bed plate and a cover plate formed of an insulating material;

a binder layer for bonding the bed and cover plates,

wherein the single crystal semiconductor substrate is held in a vacant space which is defined by the bed plate and the cover plate and the binder layer, [and]

wherein the vacant space is filled with an inert gas and a drying agent, and

wherein said single crystal semiconductor substrate is fixed over said bed plate.

9. (Amended) An active matrix type organic EL display device comprising:

an insulated gate field effect transistor provided in a pixel section on a single crystal semiconductor substrate;

an [organic] EL layer comprising an organic material provided over said insulated gate field effect transistor;

a bed plate and a cover plate formed of an insulating material;

a binder layer for bonding the bed and cover plates,

wherein the single crystal semiconductor substrate is held in a vacant space which is defined by the bed plate and the cover plate and the binder layer,

wherein the cover plate comprises a transparent material in a region of the cover plate overlapping with the pixel section, [and]

wherein the vacant space is filled with an inert gas and a drying agent, and

wherein said single crystal semiconductor substrate is fixed over said bed plate.

11. (Amended) An active matrix type organic EL display device comprising:

an insulated gate field effect transistor provided in a pixel section on a single crystal semiconductor substrate;

an [organic] EL layer comprising an organic material provided over said insulated gate field effect transistor;

a bed plate and a cover plate formed of a ceramics material;

a binder layer for bonding the bed plate and the cover plates,

wherein the single crystal semiconductor substrate is held in a vacant space which is defined by the bed plate and the cover plate and the binder layer,

wherein the cover plate comprises a transparent material in a region of the cover plate overlapping with the pixel section, [and]

wherein the vacant space is filled with an inert gas selected from the group consisting of helium, argon, krypton, xenon and nitrogen, and is filled with a drying agent selected from the group consisting of barium oxide and silica gel, and

wherein said single crystal semiconductor substrate is fixed over said bed plate.

Amendment in the Claims

Please amend claims as follows.

1. An active matrix type organic EL display device comprising:

an insulated gate field effect transistor provided on a single crystal semiconductor substrate;

an [organic] EL layer comprising an organic material provided over said insulated gate field effect transistor;

a bed plate and a cover plate formed of an insulating material;

a packing material for bonding the bed and cover plates,

wherein the single crystal semiconductor substrate is held in a vacant space which is defined by the bed plate and the cover plate and the packing material, [and]

wherein the vacant space is filled with an inert gas and a drying agent, and

wherein said single crystal semiconductor substrate is fixed over said bed plate.

3. An active matrix type organic EL display device comprising:

an insulated gate field effect transistor provided in a pixel section on a single crystal semiconductor substrate;

an [organic] EL layer comprising an organic material provided over said insulated gate field effect transistor;

a bed plate and a cover plate formed of an insulating material;

a packing material for bonding the bed and cover plates,

wherein the single crystal semiconductor substrate is held in a vacant space which is defined by the bed plate and the cover plate and the packing material,

wherein the cover plate comprises a transparent material in a region of the cover plate overlapping with the pixel section, [and]

wherein the vacant space is filled with an inert gas and a drying agent, and

wherein said single crystal semiconductor substrate is fixed over said bed plate.

5. An active matrix type organic EL display device comprising:

an insulated gate field effect transistor provided in a pixel section on a single crystal semiconductor substrate;

an [organic] EL layer comprising an organic material provided over said insulated gate field effect transistor;

a bed plate and a cover plate formed of a ceramics material;

a packing material for bonding the bed and cover plates,

wherein the single crystal semiconductor substrate is held in a vacant space which is defined by the bed plate and the cover plate and the packing material,

wherein the cover plate comprises a transparent material in a region of the cover plate overlapping with the pixel section, [and]

wherein the vacant space is filled with an inert gas selected from the group consisting of helium, argon, krypton, xenon and nitrogen, and is filled with a drying agent selected from the group consisting of barium oxide and silica gel, and

wherein said single crystal semiconductor substrate is fixed over said bed plate.

7. An active matrix type organic EL display device comprising:

an insulated gate field effect transistor provided on a single crystal semiconductor substrate;

an [organic] EL layer comprising an organic material provided over said insulated gate field effect transistor;

a bed plate and a cover plate formed of an insulating material;

a binder layer for bonding the bed and cover plates,

wherein the single crystal semiconductor substrate is held in a vacant space which is defined by the bed plate and the cover plate and the binder layer, [and]

wherein the vacant space is filled with an inert gas and a drying agent, and

wherein said single crystal semiconductor substrate is fixed over said bed plate.

9. An active matrix type organic EL display device comprising:

an insulated gate field effect transistor provided in a pixel section on a single crystal semiconductor substrate;

an [organic] EL layer comprising an organic material provided over said insulated gate field effect transistor;

a bed plate and a cover plate formed of an insulating material;

a binder layer for bonding the bed and cover plates,

wherein the single crystal semiconductor substrate is held in a vacant space which is defined by the bed plate and the cover plate and the binder layer,

wherein the cover plate comprises a transparent material in a region of the cover plate overlapping with the pixel section, [and]

wherein the vacant space is filled with an inert gas and a drying agent, and

wherein said single crystal semiconductor substrate is fixed over said bed plate.

11. An active matrix type organic EL display device comprising:

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wherein the single crystal semiconductor substrate is held in a vacant space which is defined by the bed plate and the cover plate and the binder layer,

wherein the cover plate comprises a transparent material in a region of the cover plate overlapping with the pixel section, [and]

wherein the vacant space is filled with an inert gas selected from the group consisting of helium, argon, krypton, xenon and nitrogen, and is filled with a drying agent selected from the group consisting of barium oxide and silica gel, and

wherein said single crystal semiconductor substrate is fixed over said bed plate.